IN THE CLAIMS

Upon entry of the present amendment, the status of the claims will be as is shown below. The present listing of claims replaces all prior versions and listings of claims in the present application.

Claims 1-25. (Canceled).

A1

26. (New) An apparatus for interconnecting an object streamer into an existing network interconnector to control data traffic generated by multimedia object streams, the apparatus comprising:

an ingress gateway configured to control entry of data packets into a network;

a content traffic exchange hop attached to at least one of a legacy switching component and a routing network component; and

an egress gateway configured to control the exit of data packets from the network and to stream content to end-users.

27. (New) The apparatus as claimed in claim 26, the ingress gateway comprising:

an object fragmentor configured to break up an object into data packets suited for a payload size of a network delivery medium;

a timer configured to perform a clocking function to emulate the decoding time of the object to be decoded by an end device;

an object marker configured to link network data payloads belonging to the same data object to be delivered;

a time slot divider configured to compute the transmission time of the object data fragmented in a number of data packets;

a time slot allocator configured to determine the exact time of delivery; and

a network packet formatter.

28. (New) The apparatus as claimed in claim 26, the content traffic exchange hop and egress gateway comprising at least one of:

a network parameter mapper and decoder module configured to check and encode headers of packetized multimedia objects , each header including a precedence level, a time stamp of the multimedia object and a source and destination reference;

a network payload packetizer and de-packetizer configured to encapsulate and assemble the object data from the data packets of the same object received from and transmitted to a network layer;

an object stream scheduler configured to register a decoding time for each data object stream received and to schedule a delivery time of the stream to be routed out of a node;

a data packet transmission scheduler configured to schedule the transmission of a single multimedia object when transmission time allows the single multimedia object to be sent out entirely;

a time slot re-scheduler configured to re-allocate the sending time of objects to an earlier time slot when the objects fail to meet the real time requirement of the object stream;

a system time slot divider configured to synchronize all object streams for at least one of re-transmission and re-routing; and

a time slot allocator configured to provide an exact delivery time of object streams leaving the node.

29. (New) The apparatus as claimed in claim 26, further comprising a clocking mechanism at each host and routing node to synchronize with the multimedia object streams received and to schedule the transmission time of object streams at determined time slots.

30. (New) The apparatus as claimed in claim 29, the clocking mechanism comprising:

a module configured to determine an arrival of the first data packet belonging to an object based on a multimedia object reference;

a module configured to compute and maintain a time table of all the streams based on a difference between a transmission of the last sent object and the next scheduled transmission of an object;

a module configured to create a link list for the data packets received for all subsequent data packets belonging to the same object; and

a queuing module configured to put data packets in assigned time slots.

31. (New) The apparatus as claimed in claim 26, further comprising a delayer that avoids network congestion and limits short-term bandwidth utilization peaks by using cache memory for data objects to delay the transmission of data objects and to meet real-time decoding at an end receiver.

32. (New) The apparatus as claimed in claim 31, further comprising a synchronizer that synchronizes object streams.

33. (New) The apparatus as claimed in any one of claims 26, further comprising a moderator that moderates peak data by diverting object data of lower precedence to a cache memory.

34. (New) The apparatus as claimed in claim 26, further comprising a traffic filter specification enabler that enables a different traffic filter specifications based on a allocation of bandwidth by dividing a real-time delivery window in terms of decoding frames into multiple time slots.